

together comprise an anti-hepatitis virus effective amount of said compounds.

Replace claim 38 with the following:

38. (Once amended) The pharmaceutical composition of claim 70, wherein R is a branched or straight chain alkyl having seven or more carbon atoms, and W, X, Y, and Z are each hydrogen.

Replace claim 39 with the following:

39. (Once amended) The pharmaceutical composition of claim 38, wherein R is a straight chain alkyl having a chain length of C₇ to C₂₀.

Replace claim 40 with the following:

40. (Once amended) The pharmaceutical composition of claim 39, wherein R is a straight chain alkyl having a chain length of C₇ to C₁₄.

Replace claim 41 with the following:

41. (Once amended) The pharmaceutical composition of claim 40, wherein R is a straight chain alkyl having a chain length of C₇ to C₁₂.

Replace claim 43 with the following:

43. (Once amended) The pharmaceutical composition of claim 70, wherein R is a branched or straight chain alkyl having seven or more carbon atoms, and W, X, Y, and Z are each alkanoyl.

Replace claim 44 with the following:

44. (Once amended) The pharmaceutical composition of claim 43, wherein R is a straight chain alkyl having a chain length of C₇ to C₂₀.

Replace claim 45 with the following:

45. (Once amended) The pharmaceutical composition of claim 44, wherein R is a straight chain alkyl having a chain length of C₇ to C₁₄.

Replace claim 46 with the following:

46. (Once amended) The pharmaceutical composition of claim 45, wherein R is a straight chain alkyl having a chain length of C₇ to C₁₂.

Replace claim 53 with the following:

53. (Once amended) The pharmaceutical composition of claim 70, wherein

R is a straight chain alkyl having a chain length of C₇ to C₂₀,

W, X, Y, and Z are each hydrogen, and
said antiviral compound is a nucleoside antiviral compound.

Replace claim 54 with the following:

54. (Once amended) The pharmaceutical composition of claim 70, wherein

R is a straight chain alkyl having a chain length of C₇ to C₂₀,

W, X, Y, and Z are each butanoyl, and
said antiviral compound is a nucleoside antiviral compound.

Replace claim 55 with the following:

55. (Once amended) The pharmaceutical composition of claim 70, wherein said N-substituted-1,5-dideoxy-1,5-imino-D-glucitol compound is selected from the group consisting of:

N-(n-heptyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(n-octyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(n-octyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrates;

N-(*n*-nonyl-)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

10 *N*-(*n*-decyl-)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(*n*-undecyl-)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(*n*-nonyl-)-1,5-dideoxy-1,5-imino-D-glucitol;

15 *N*-(*n*-decyl-)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(*n*-undecyl-)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(*n*-dodecyl-)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(2-ethylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(4-ethylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

20 *N*-(5-methylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(3-propylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(1-pentylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(1-butylbutyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(7-methyloctyl)-1,5-dideoxy-1,5-imino-D-glucitol;

25 *N*-(8-methylnonyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(9-methyldecyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(10-methylundecyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(6-cyclohexylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(4-cyclohexylbutyl)-1,5-dideoxy-1,5-imino-D-glucitol;

30 *N*-(2-cyclohexylethyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(1-cyclohexylmethyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(1-phenylmethyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(3-phenylpropyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(3-(4-methyl)-phenylpropyl)-1,5-dideoxy-1,5-imino-D-

35 glucitol;

N-(6-phenylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol;

N-(*n*-nonyl-)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(*n*-decyl-)-1,5-dideoxy-1,5-imino-D-glucitol,
40 tetrabutyrate;

N-(*n*-undecyl-)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(*n*-dodecyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

45 *N*-(2-ethylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(4-ethylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

50 *N*-(5-methylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(3-propylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(1-butylbutyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

55 *N*-(7-methyloctyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(8-methylnonyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

60 *N*-(9-methyldecyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(10-methylundecyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(6-cyclohexylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

65 *N*-(4-cyclohexylbutyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(2-cyclohexylethyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

70 *N*-(1-cyclohexylmethyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(1-phenylmethyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

N-(3-phenylpropyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrate;

75 *N*-(3-(4-methyl)-phenylpropyl)-1,5-dideoxy-1,5-imino-D-
glucitol, tetrabutyrate; and

N-(6-phenylhexyl)-1,5-dideoxy-1,5-imino-D-glucitol,
tetrabutyrates, and

said nucleoside or nucleotide antiviral compound is selected
from the group consisting of:

(+)-cis-5-fluoro-1-[2-(hydroxy-methyl)-[1,3-oxathiolan-5-
yl]cytosine;

(-)-2'-deoxy-3'-thiacytidine-5'-triphosphate (3TC);

(-)-cis-5-fluoro-1-[2-(hydroxy-methyl)-[1,3-oxathiolan-5-
yl]cytosine (FTC);

(-)-2',3', dideoxy-3'-thiacytidine [(-)-SddC];

1-(2'-deoxy-2'-fluoro-beta-D-arabinofuranosyl)-5-
iodocytosine (FIAC);

1-(2'-deoxy-2'-fluoro-beta-D-arabinofuranosyl)-5-
iodocytosine triphosphate (FIACTP);

1-(2'-deoxy-2'-fluoro-beta-D-arabinofuranosyl)-5-
methyluracil (FMAU);

1-beta-D-ribofuranosyl-1,2,4-triazole-3-carboxamide;

2',3'-dideoxy-3'-fluoro-5-methyl-dexocytidine (FddMeCyt);

2',3'-dideoxy-3'-chloro-5-methyl-dexocytidine (ClddMeCyt);

2',3'-dideoxy-3'-amino-5-methyl-dexocytidine (AddMeCyt);

2',3'-dideoxy-3'-fluoro-5-methyl-cytidine (FddMeCyt);

2',3'-dideoxy-3'-chloro-5-methyl-cytidine (ClddMeCyt);

2',3'-dideoxy-3'-amino-5-methyl-cytidine (AddMeCyt);

2',3'-dideoxy-3'-fluorothymidine (FddThd);

2',3'-dideoxy-beta-L-5-fluorocytidine (beta-L-FddC);

2',3'-dideoxy-beta-L-5-thiacytidine;

2',3'-dideoxy-beta-L-5-cytidine (beta-L-ddC);

2'-deoxy-3'-thia-5-fluorocytosine;

3'-amino-5-methyl-dexocytidine (AddMeCyt);

3'-azido-3'-deoxythymidine (AZT);

3'-chloro-5-methyl-dexocytidine (ClddMeCyt);

9-(2-phosphonyl-methoxyethyl)-2',6'-diaminopurine-2',3'-
dideoxyriboside;

9-(2-phosphonylmethoxyethyl)adenine (PMEA);

acyclovir triphosphate (ACVTP);

115 D-carbocyclic-2'-deoxyguanosine (CdG);
dideoxy-cytidine;
dideoxy-cytosine (ddC);
dideoxy-guanine (ddG);
dideoxy-inosine (ddI);
E-5-(2-bromovinyl)-2'-deoxyuridine triphosphate;
fluoro-arabinofuranosyl-iodouracil;
stavudine;
120 2-deoxy-3'-thia-5-fluorocytidine;
2',3'-dideoxy-guanine; and
2',3'-dideoxy-guanosine.

Replace claim 56 with the following:

56. (Once amended) The pharmaceutical composition of claim 70, wherein said *N*-substituted-1,5-dideoxy-1,5-imino-D-glucitol compound is selected from the group consisting of *N*-(*n*-nonyl)-1,5-dideoxy-1,5-imino-D-glucitol and *N*-(*n*-nonyl)-1,5-dideoxy-1,5-imino-D-glucitol, tetrabutyrates, and said nucleoside antiviral compound is (-)-2'-deoxy-3'-thiocytidine-5'-triphosphate (3TC).

Replace claim 58 with the following:

58. (Once amended) The pharmaceutical composition of claim 70, wherein said first amount of said *N*-substituted-1,5-dideoxy-1,5-imino-D-glucitol compound is in the range of from about 0.1 mg to about 100 mg.

Replace claim 61 with the following:

61. (Once amended) The pharmaceutical composition of claim 70, wherein said second amount of said nucleoside or nucleotide antiviral compound, or mixture thereof, is in the range of from about 0.1 mg to about 500 mg.

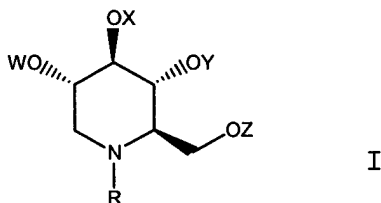
Replace claim 65 with the following:

65. (Once amended) The pharmaceutical composition of claim 70, wherein said second amount of said nucleoside or nucleotide

antiviral compound, or mixture thereof, is in the range of from about 1 mg to about 50 mg.

Replace claim 66 with the following:

66. (Once amended) A pharmaceutical composition for treating a hepatitis B virus infection in a mammal, comprising from about 0.1 mg to about 100 mg of an *N*-substituted-1,5-dideoxy-1,5-imino-D-glucitol compound of Formula I:



wherein:

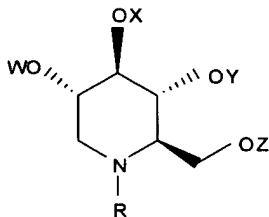
R is selected from the group consisting of arylalkyl, cycloalkylalkyl, and branched or straight chain alkyl having a chain length of C₇ to C₂₀, and

10 W, X, Y, and Z are each independently selected from the group consisting of hydrogen, alkanoyl, aroyl, and trifluoroalkanoyl; and

15 from about 0.1 mg to about 500 mg of a compound selected from the group consisting of a nucleoside antiviral compound, a nucleotide antiviral, and mixtures thereof.

Replace claim 70 with the following:

70. (once amended) A pharmaceutical composition, comprising a first amount of an *N*-substituted-1,5-dideoxy-1,5-imino-D-glucitol compound of Formula I:



wherein:

5 R is selected from the group consisting of arylalkyl, cycloalkylalkyl, and branched or straight chain alkyl having seven or more carbon atoms, and

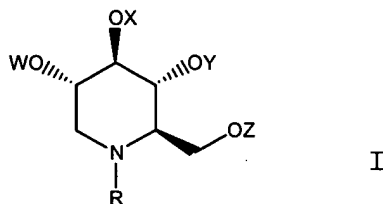
10 W, X, Y, and Z are each independently selected from the group consisting of hydrogen, alkanoyl, aroyl, and trifluoroalkanoyl; and

a second amount of an antiviral compound selected from the group consisting of a nucleoside antiviral compound, a nucleotide antiviral compound, and mixtures thereof, and

15 a pharmaceutically acceptable carrier, diluent, or excipient.

Replace claim 71 with the following:

71. (Once amended) A pharmaceutical composition, comprising a first amount of an *N*-substituted-1,5-dideoxy-1,5-imino-D-glucitol compound of Formula I:



5 wherein:

R is selected from the group consisting of arylalkyl, cycloalkylalkyl, and branched or straight chain alkyl having a chain length of between C₇ and C₂₀, and

10 W, X, Y, and Z are each independently selected from the group consisting of hydrogen, alkanoyl, aroyl, and trifluoroalkanoyl; and

a second amount of an antiviral compound selected from the group consisting of a nucleoside antiviral compound, a nucleotide antiviral compound, and mixtures thereof, and

15 a pharmaceutically acceptable carrier, diluent, or excipient.